

# Christopher R. Culpepper

Christopher.R.Culpepper@gmail.com  
(413) 376-5034

51 Irene St.  
Chicopee MA 01013

www.ab1tj.com

## CAREER OBJECTIVE

To continue my career in Electrical or Computer Engineering: designing electronic hardware, working with RF devices, or creating embedded software, preferably in the aerospace or subsurface domain.

## EXPERIENCE

### *Electrical Engineer*

*October 2019 - Present*

FTL Labs Corporation, Amherst MA

- Designed interface electronics, analog piezo load cell interface, COTS LED module dimmer
- Solved manufacturing problems to increase production speed
- Personally ran small-scale assembly and production (12 units)
- Designed control loop to keep laser diode at constant optical power over temperature
- Reverse engineered commercial laser diode driver to implement circuit
- Created large physical contaminant database, managed spectographic collection
- Designed an automated data collection system to treat jet fuel to test treatment efficacy

*Senior Electrical Engineer (Previous Systems Engineer , Co-Op) July 2013 - August 2019, FT 2017-19*

General Dynamics Mission Systems, Pittsfield MA

- Developed and executed evaluation and qualification tests for inherited hardware
- Performed integration and repair operations on legacy hardware
- Performed tasking at customer locations and pre-deployment locations
- Performed software and systems testing on high-integrity mission-critical software

### *Test Engineer Co-op*

*January 2016 - May 2016*

Space Exploration Technologies, Hawthorne CA

- Designed and built hardware to test bias-T HD cameras
- Created software to automate the creation of trouble reports

## EDUCATION

*Bachelor of Science, Computer Engineering*

Rochester Institute of Technology, Rochester NY, Graduated May 2017

Digital Signal Processing

Data Communication and Networks

Digital System Design

Cyborg Theory

HW & SW Design for Crypto Applications

General Chemistry for Engineers

## PROJECTS

### *24 Hours of Lemons Racecar*

- Procured \$500 car, built it into an endurance racecar
- Gathered, organized and managed team of 5 people to build and race car
- Designed and built roll cage, selected performance components
- Continue to diagnose and fix mechanical issues.

### *Radio-Internet Hotspot Transceiver (Multidisciplinary Senior Design)*

- Worked as a team leader to complete self-appointed tasks
- Completed final PCB design, layout, assembly and test (It worked!)
- Device acted as an audio bridge between RF and the Allstar radio network

### *Wideband Oxygen Sensor Controller*

- Designed, built and programmed sensor controller that measured oxygen concentration
- Incorporated PID loops to keep a sensor at a constant temperature and oxygen concentration

### *Assembly Language Pong Game*

- Created a 1.5D Pong game for a school project in HCS12 assembly

### *Various Other Projects:*

Motorcycle Speedometer

Metal Melting Foundry

RIT Rocket Initiative power board

3D Printer modifications

Race Car data logger and comms board

Electric Fence Controller

## SKILLS & AWARDS

Eagle Scout

A+ Certified

### *Languages & Software:*

C

Kicad PCB Design Software

Linux

VHDL

Python

AutoIt Automation Scripting

OpenSCAD Parametric modeling software

Visual Basic for Applications (VBA)

DOORS Requirement Management

Networking Equipment Configuration

## PERSONAL INTERESTS AND HOBBIES

Amateur Radio Extra

3D Printing

Photography (Analog, digital)

Holography (early stages)

Working towards pilot licence

Licked thing that was in space